

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

SE SW SEC. 11 T7N R60W 6th P.M.

WAVES 7-60 11-2-9

ORIGINAL WELLBORE

18 February, 2019

Plan: PROPOSAL #2





Project: WELD COUNTY, COLORADO (NAD 83)
Site: SE SW SEC. 11 T7N R60W 6th P.M.
Well: WAVES 7-60 11-2-9
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 210ft FSL & 2285ft FWL of Sec 11		
100.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)		
1326.99	1367.98	25.36	94.94	-23.75	275.04	33.60	276.06	EOB TO 25.36° INC		
4416.95	4787.46	25.36	94.94	-149.77	1734.16	211.83	1740.62	END OF TANGENT		
5643.94	6055.44	0.00	0.00	-173.52	2009.20	245.42	2016.68	EOD TO VERTICAL		
5743.94	6155.44	0.00	0.00	-173.52	2009.20	245.42	2016.68	KOP (10°/100ft BUR)		
6316.90	7055.45	90.00	0.79	399.38	2017.10	807.59	2589.64	BPI: 600ft FSL & 985ft FEL of Sec 11		
6316.90	16744.85	90.00	0.79	10087.87	2150.41	10314.51	12279.04	EPI: 300ft FNL & 980ft FEL of Sec 2		
6316.90	16845.05	90.00	0.79	10188.06	2151.79	10412.82	12379.24	BHL: 200ft FNL & 979ft FEL of Sec 2		

PROPOSED LOCAL COORDINATES:

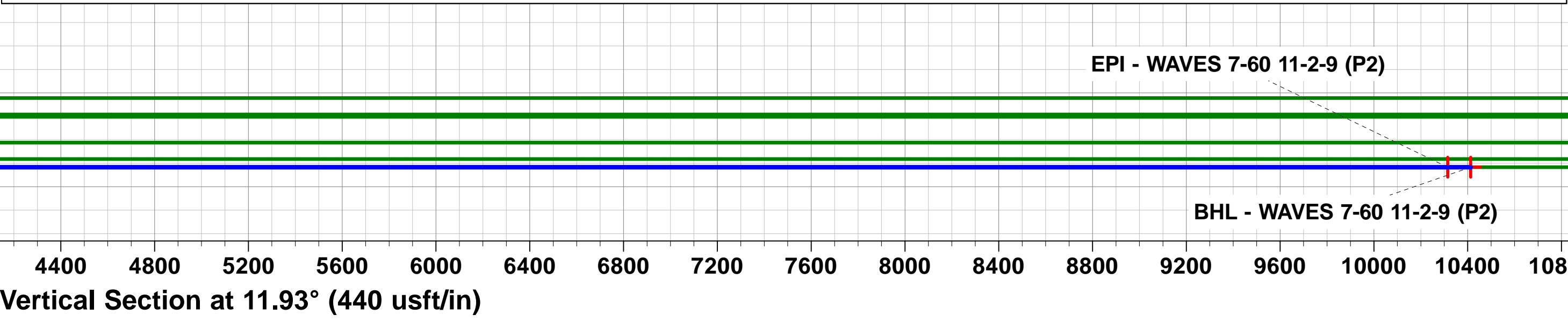
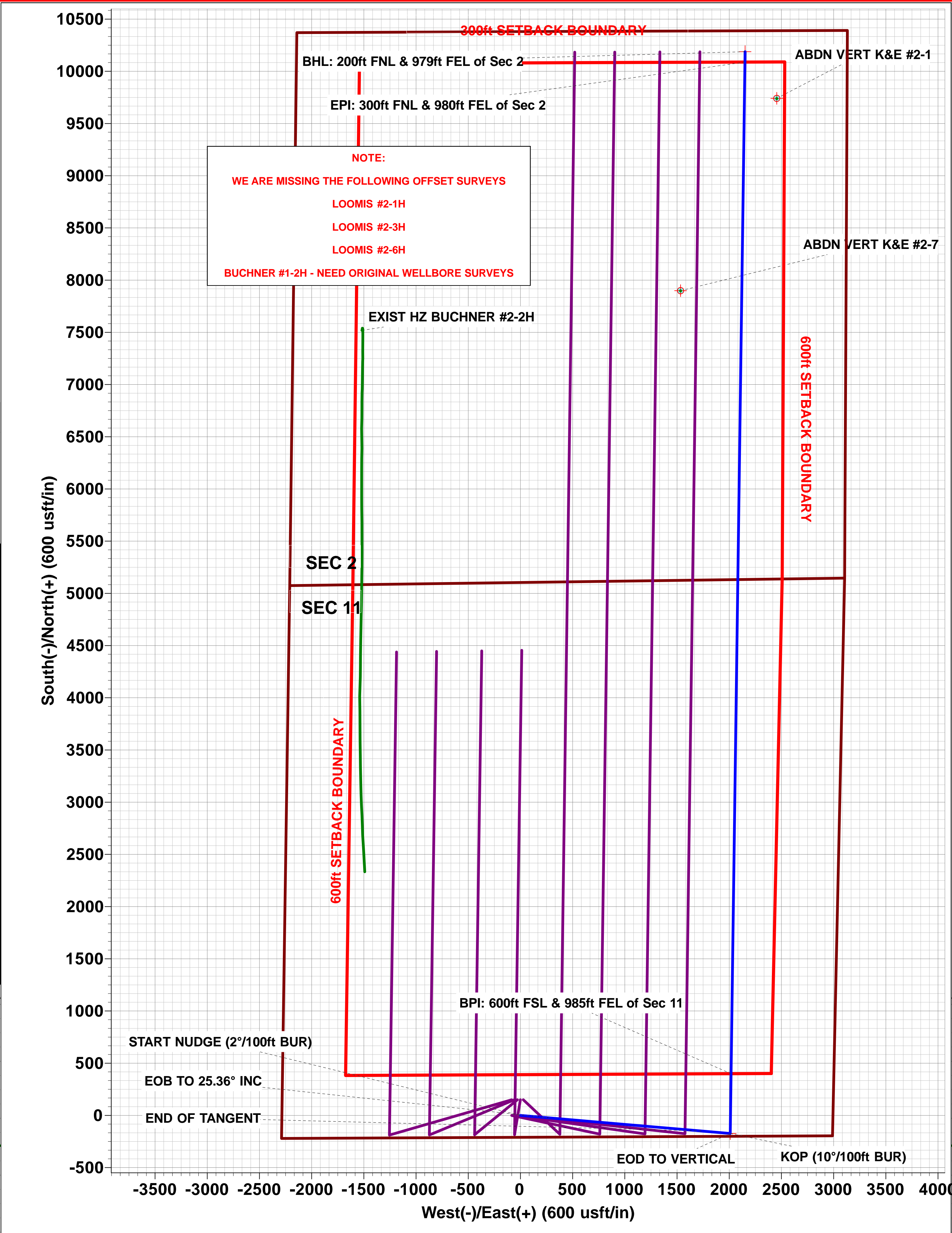
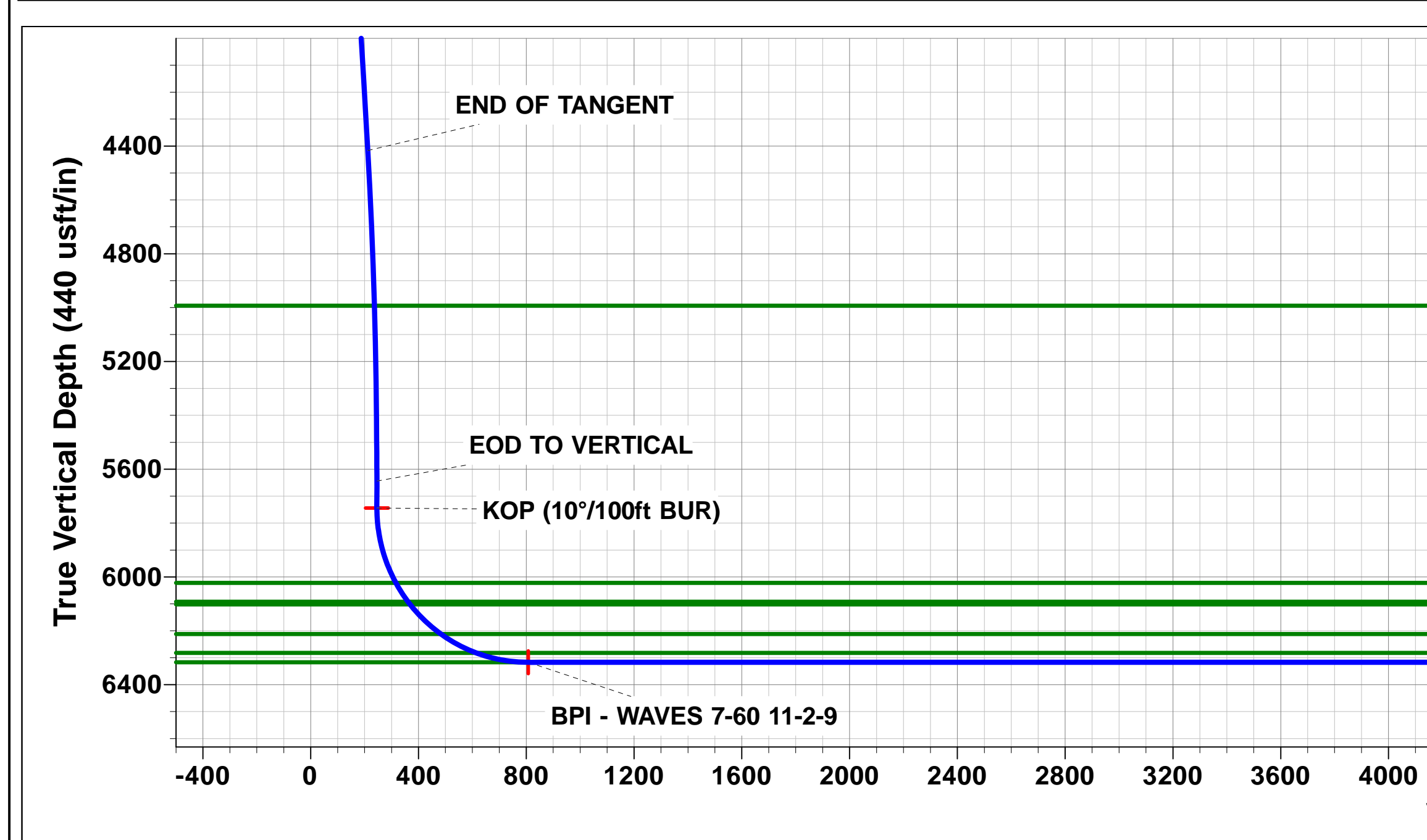
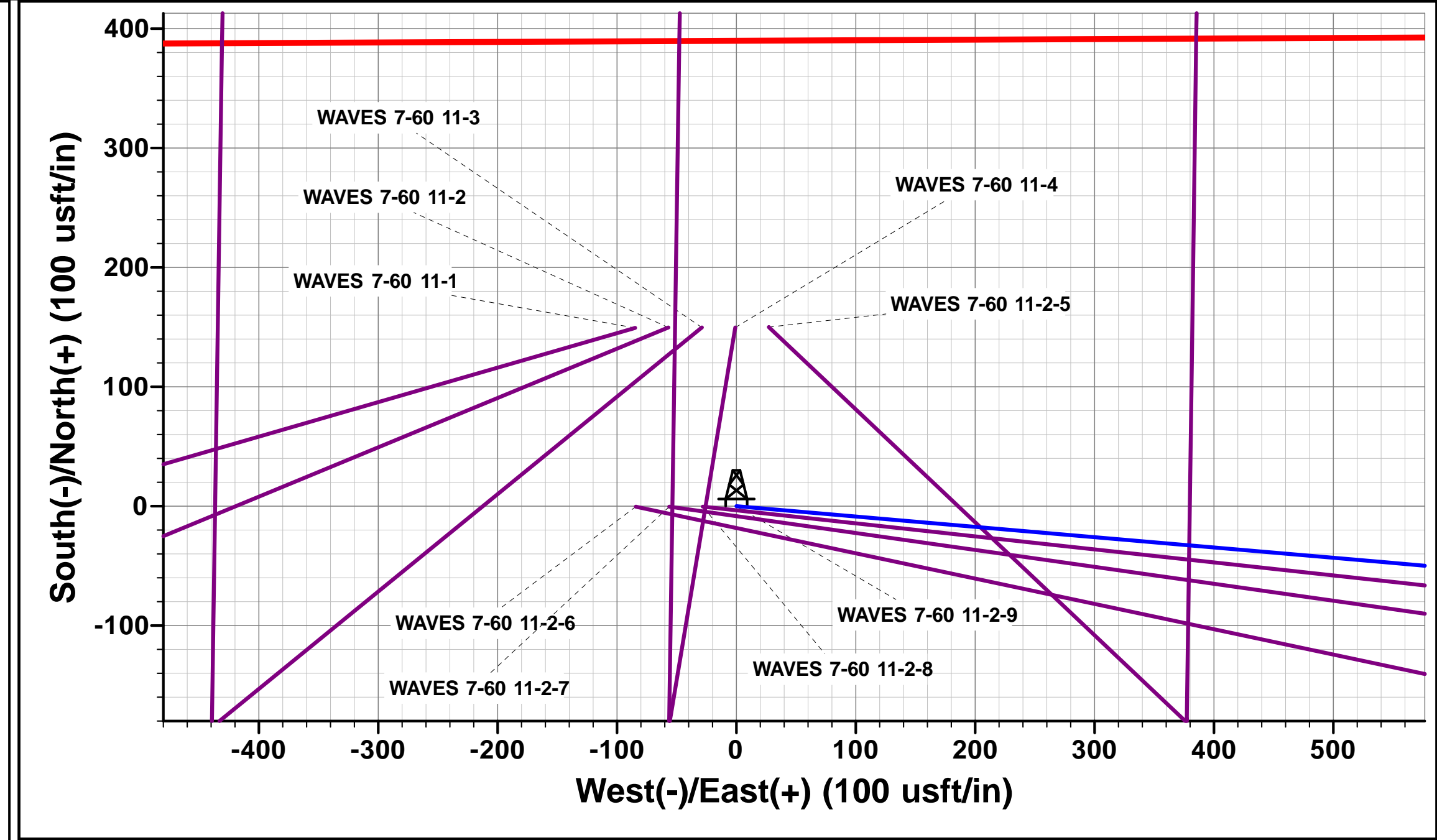
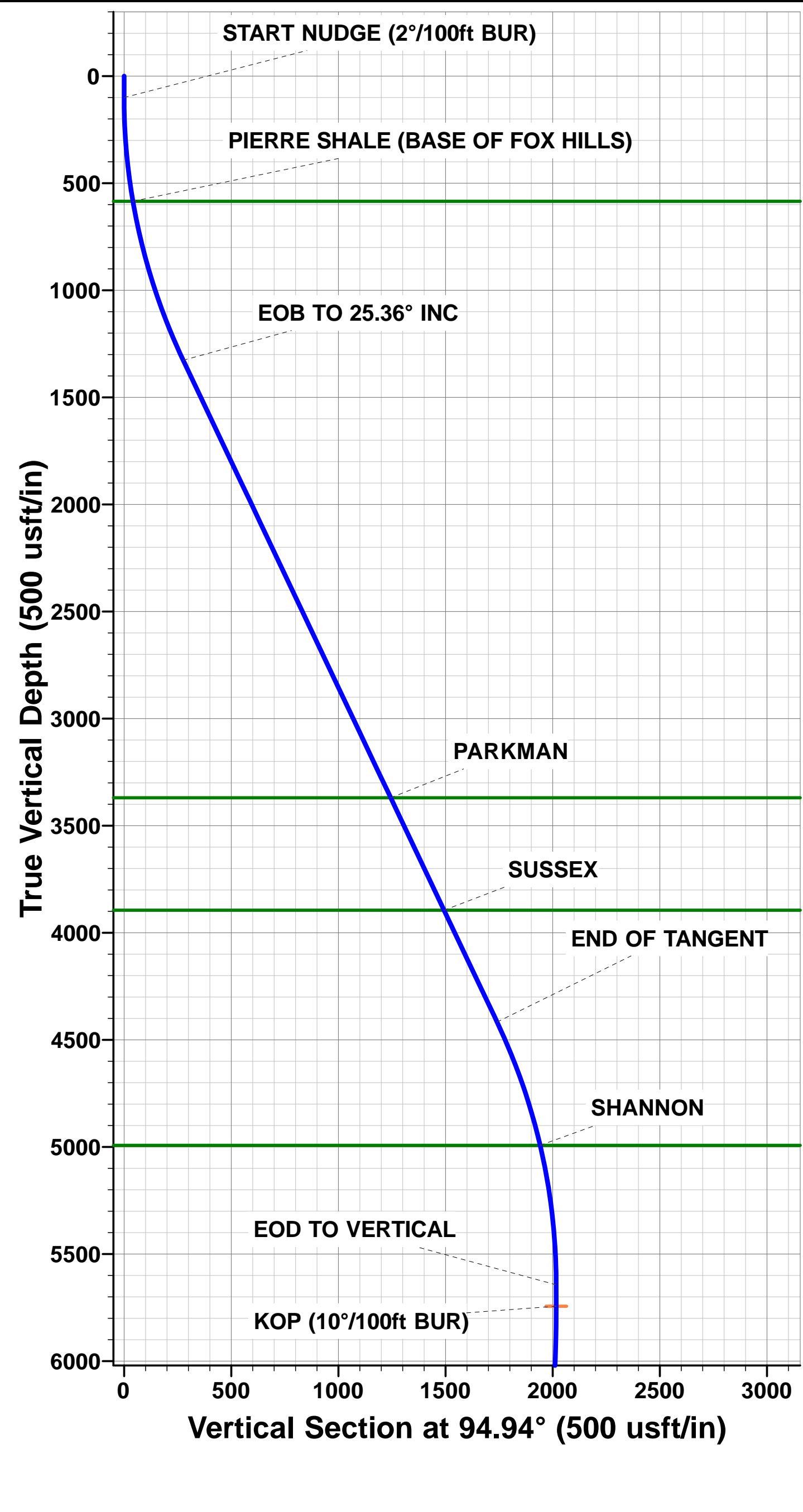
SHL: 210ft FSL & 2285ft FWL Sec 11

BPI : 600ft FSL & 985ft FEL Sec 11

EPI: 300ft FNL & 980ft FEL Sec 2

BHL: 200ft FNL & 979ft FEL of Sec 2

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - WAVES 7-60 11-2-9	5743.94	-173.52	2009.20	40.582582	-104.053960
BPI - WAVES 7-60 11-2-9	6316.90	399.38	2017.10	40.584155	-104.053931
EPI - WAVES 7-60 11-2-9 (P2)	6316.90	10087.87	2150.41	40.610748	-104.053448
BHL - WAVES 7-60 11-2-9 (P2)	6316.90	10188.06	2151.79	40.611023	-104.053443



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WAVES 7-60 11-2-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Site:	SE SW SEC. 11 T7N R60W 6th P.M.	North Reference:	True
Well:	WAVES 7-60 11-2-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Project	WELD COUNTY, COLORADO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	SE SW SEC. 11 T7N R60W 6th P.M.		
Site Position:		Northing:	1,458,491.81 usft
From:	Lat/Long	Easting:	3,399,623.04 usft
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000ft
		Latitude:	40.583059
		Longitude:	-104.061193
		Grid Convergence:	0.93 °

Well	WAVES 7-60 11-2-9		
Well Position	+N/-S	0.00 usft	Northing: 1,458,491.80 usft
	+E/-W	0.00 usft	Easting: 3,399,623.04 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	40.583059
		Longitude:	-104.061193
		Ground Level:	4,891.90 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	27/06/2018	7.73	67.08	52,441

Design	PROPOSAL #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	6,316.90	0.00	0.00	11.93

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)	TFO (°)	Target
0.00	0.00	0.00	0.00	-4,916.90	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	-4,816.90	0.00	0.00	0.00	0.00	0.00	0.00	
1,367.98	25.36	94.94	1,326.99	-3,589.91	-23.75	275.04	2.00	2.00	0.00	94.94	
4,787.46	25.36	94.94	4,416.95	-499.95	-149.77	1,734.16	0.00	0.00	0.00	0.00	
6,055.44	0.00	0.00	5,643.94	727.04	-173.52	2,009.20	2.00	-2.00	0.00	180.00	
6,155.44	0.00	0.00	5,743.94	827.04	-173.52	2,009.20	0.00	0.00	0.00	0.00	KOP - WAVES 7-60
7,055.45	90.00	0.79	6,316.90	1,400.00	399.38	2,017.10	10.00	10.00	0.09	0.79	BPI - WAVES 7-60
16,744.85	90.00	0.79	6,316.90	1,400.00	10,087.87	2,150.41	0.00	0.00	0.00	-87.20	EPI - WAVES 7-60
16,845.05	90.00	0.79	6,316.90	1,400.00	10,188.06	2,151.79	0.00	0.00	0.00	92.18	BHL - WAVES 7-60

Planning Report



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Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Site:	SE SW SEC. 11 T7N R60W 6th P.M.	North Reference:	True
Well:	WAVES 7-60 11-2-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
SHL: 210ft FSL & 2285ft FWL of Sec 11										
0.00	0.00	0.00	0.00	4,916.90	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
100.00	0.00	0.00	100.00	4,816.90	0.00	0.00	0.00	0.00	0.00	0.00
200.00	2.00	94.94	199.98	4,716.92	-0.15	1.74	0.21	2.00	2.00	0.00
300.00	4.00	94.94	299.84	4,617.06	-0.60	6.95	0.85	2.00	2.00	0.00
400.00	6.00	94.94	399.45	4,517.45	-1.35	15.64	1.91	2.00	2.00	0.00
500.00	8.00	94.94	498.70	4,418.20	-2.40	27.78	3.39	2.00	2.00	0.00
PIERRE SHALE (BASE OF FOX HILLS)										
587.25	9.74	94.94	584.90	4,332.00	-3.56	41.18	5.03	2.00	2.00	0.00
600.00	10.00	94.94	597.47	4,319.43	-3.74	43.36	5.30	2.00	2.00	0.00
700.00	12.00	94.94	695.62	4,221.28	-5.39	62.37	7.62	2.00	2.00	0.00
800.00	14.00	94.94	793.06	4,123.84	-7.32	84.78	10.36	2.00	2.00	0.00
900.00	16.00	94.94	889.64	4,027.26	-9.55	110.57	13.51	2.00	2.00	0.00
1,000.00	18.00	94.94	985.27	3,931.63	-12.06	139.69	17.06	2.00	2.00	0.00
1,100.00	20.00	94.94	1,079.82	3,837.08	-14.87	172.13	21.03	2.00	2.00	0.00
1,200.00	22.00	94.94	1,173.17	3,743.73	-17.95	207.83	25.39	2.00	2.00	0.00
1,300.00	24.00	94.94	1,265.21	3,651.69	-21.31	246.76	30.14	2.00	2.00	0.00
EOB TO 25.36° INC										
1,367.98	25.36	94.94	1,326.99	3,589.91	-23.75	275.04	33.60	2.00	2.00	0.00
1,400.00	25.36	94.94	1,355.92	3,560.98	-24.93	288.70	35.26	0.00	0.00	0.00
1,500.00	25.36	94.94	1,446.28	3,470.62	-28.62	331.37	40.48	0.00	0.00	0.00
1,600.00	25.36	94.94	1,536.65	3,380.25	-32.30	374.04	45.69	0.00	0.00	0.00
1,700.00	25.36	94.94	1,627.01	3,289.89	-35.99	416.71	50.90	0.00	0.00	0.00
1,800.00	25.36	94.94	1,717.37	3,199.53	-39.67	459.38	56.11	0.00	0.00	0.00
1,900.00	25.36	94.94	1,807.74	3,109.16	-43.36	502.05	61.33	0.00	0.00	0.00
2,000.00	25.36	94.94	1,898.10	3,018.80	-47.04	544.72	66.54	0.00	0.00	0.00
2,100.00	25.36	94.94	1,988.46	2,928.44	-50.73	587.40	71.75	0.00	0.00	0.00
2,200.00	25.36	94.94	2,078.83	2,838.07	-54.41	630.07	76.96	0.00	0.00	0.00
2,300.00	25.36	94.94	2,169.19	2,747.71	-58.10	672.74	82.17	0.00	0.00	0.00
2,400.00	25.36	94.94	2,259.56	2,657.34	-61.78	715.41	87.39	0.00	0.00	0.00
2,500.00	25.36	94.94	2,349.92	2,566.98	-65.47	758.08	92.60	0.00	0.00	0.00
2,600.00	25.36	94.94	2,440.28	2,476.62	-69.16	800.75	97.81	0.00	0.00	0.00
2,700.00	25.36	94.94	2,530.65	2,386.25	-72.84	843.42	103.02	0.00	0.00	0.00
2,800.00	25.36	94.94	2,621.01	2,295.89	-76.53	886.09	108.24	0.00	0.00	0.00
2,900.00	25.36	94.94	2,711.37	2,205.53	-80.21	928.76	113.45	0.00	0.00	0.00
3,000.00	25.36	94.94	2,801.74	2,115.16	-83.90	971.44	118.66	0.00	0.00	0.00
3,100.00	25.36	94.94	2,892.10	2,024.80	-87.58	1,014.11	123.87	0.00	0.00	0.00
3,200.00	25.36	94.94	2,982.46	1,934.44	-91.27	1,056.78	129.09	0.00	0.00	0.00
3,300.00	25.36	94.94	3,072.83	1,844.07	-94.95	1,099.45	134.30	0.00	0.00	0.00
3,400.00	25.36	94.94	3,163.19	1,753.71	-98.64	1,142.12	139.51	0.00	0.00	0.00
3,500.00	25.36	94.94	3,253.56	1,663.34	-102.32	1,184.79	144.72	0.00	0.00	0.00
3,600.00	25.36	94.94	3,343.92	1,572.98	-106.01	1,227.46	149.93	0.00	0.00	0.00
PARKMAN										
3,628.75	25.36	94.94	3,369.90	1,547.00	-107.07	1,239.73	151.43	0.00	0.00	0.00
3,700.00	25.36	94.94	3,434.28	1,482.62	-109.69	1,270.13	155.15	0.00	0.00	0.00
3,800.00	25.36	94.94	3,524.65	1,392.25	-113.38	1,312.80	160.36	0.00	0.00	0.00
3,900.00	25.36	94.94	3,615.01	1,301.89	-117.06	1,355.47	165.57	0.00	0.00	0.00
4,000.00	25.36	94.94	3,705.37	1,211.53	-120.75	1,398.15	170.78	0.00	0.00	0.00
4,100.00	25.36	94.94	3,795.74	1,121.16	-124.43	1,440.82	176.00	0.00	0.00	0.00
4,200.00	25.36	94.94	3,886.10	1,030.80	-128.12	1,483.49	181.21	0.00	0.00	0.00
SUSSEX										
4,209.74	25.36	94.94	3,894.90	1,022.00	-128.48	1,487.64	181.72	0.00	0.00	0.00

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Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,300.00	25.36	94.94	3,976.47	940.43	-131.80	1,526.16	186.42	0.00	0.00	0.00
4,400.00	25.36	94.94	4,066.83	850.07	-135.49	1,568.83	191.63	0.00	0.00	0.00
4,500.00	25.36	94.94	4,157.19	759.71	-139.17	1,611.50	196.84	0.00	0.00	0.00
4,600.00	25.36	94.94	4,247.56	669.34	-142.86	1,654.17	202.06	0.00	0.00	0.00
4,700.00	25.36	94.94	4,337.92	578.98	-146.54	1,696.84	207.27	0.00	0.00	0.00
END OF TANGENT										
4,787.46	25.36	94.94	4,416.95	499.95	-149.77	1,734.16	211.83	0.00	0.00	0.00
4,800.00	25.11	94.94	4,428.30	488.60	-150.23	1,739.49	212.48	2.00	-2.00	0.00
4,900.00	23.11	94.94	4,519.57	397.33	-153.74	1,780.18	217.45	2.00	-2.00	0.00
5,000.00	21.11	94.94	4,612.21	304.69	-156.98	1,817.68	222.03	2.00	-2.00	0.00
5,100.00	19.11	94.94	4,706.11	210.79	-159.94	1,851.93	226.21	2.00	-2.00	0.00
5,200.00	17.11	94.94	4,801.15	115.75	-162.61	1,882.90	230.00	2.00	-2.00	0.00
5,300.00	15.11	94.94	4,897.22	19.68	-165.00	1,910.54	233.37	2.00	-2.00	0.00
SHANNON										
5,398.67	13.14	94.94	4,992.90	-76.00	-167.07	1,934.52	236.30	2.00	-2.00	0.00
5,400.00	13.11	94.94	4,994.20	-77.30	-167.10	1,934.82	236.34	2.00	-2.00	0.00
5,500.00	11.11	94.94	5,091.97	-175.07	-168.90	1,955.72	238.89	2.00	-2.00	0.00
5,600.00	9.11	94.94	5,190.41	-273.51	-170.41	1,973.21	241.03	2.00	-2.00	0.00
5,700.00	7.11	94.94	5,289.41	-372.51	-171.63	1,987.26	242.74	2.00	-2.00	0.00
5,800.00	5.11	94.94	5,388.83	-471.93	-172.54	1,997.86	244.04	2.00	-2.00	0.00
5,900.00	3.11	94.94	5,488.57	-571.67	-173.16	2,005.00	244.91	2.00	-2.00	0.00
6,000.00	1.11	94.94	5,588.50	-671.60	-173.47	2,008.67	245.36	2.00	-2.00	0.00
EOD TO VERTICAL										
6,055.44	0.00	0.00	5,643.94	-727.04	-173.52	2,009.20	245.42	2.00	-2.00	0.00
6,100.00	0.00	0.00	5,688.50	-771.60	-173.52	2,009.20	245.42	0.00	0.00	0.00
KOP (10°/100ft BUR)										
6,155.44	0.00	0.00	5,743.94	-827.04	-173.52	2,009.20	245.42	0.00	0.00	0.00
6,200.00	4.46	0.79	5,788.45	-871.55	-171.79	2,009.22	247.12	10.00	10.00	0.00
6,300.00	14.46	0.79	5,886.97	-970.07	-155.38	2,009.45	263.22	10.00	10.00	0.00
6,400.00	24.46	0.79	5,981.14	-1,064.24	-122.12	2,009.91	295.86	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,445.66	29.02	0.79	6,021.90	-1,105.00	-101.59	2,010.19	316.01	10.00	10.00	0.00
6,500.00	34.46	0.79	6,068.10	-1,151.20	-73.01	2,010.59	344.05	10.00	10.00	0.00
NIOBRARA FORMATION										
6,529.39	37.39	0.79	6,091.90	-1,175.00	-55.77	2,010.82	360.97	10.00	10.00	0.00
NIOBRARA A CHALK										
6,542.09	38.66	0.79	6,101.90	-1,185.00	-47.95	2,010.93	368.64	10.00	10.00	0.00
6,600.00	44.46	0.79	6,145.21	-1,228.31	-9.55	2,011.46	406.32	10.00	10.00	0.00
6,700.00	54.46	0.79	6,210.14	-1,293.24	66.33	2,012.51	480.78	10.00	10.00	0.00
NIOBRARA B CHALK										
6,703.05	54.76	0.79	6,211.90	-1,295.00	68.82	2,012.54	483.22	10.00	10.00	0.00
6,800.00	64.46	0.79	6,260.89	-1,343.99	152.34	2,013.69	565.18	10.00	10.00	0.00
NIOBRARA C CHALK										
6,854.15	69.87	0.79	6,281.90	-1,365.00	202.22	2,014.38	614.12	10.00	10.00	0.00
6,900.00	74.46	0.79	6,295.94	-1,379.04	245.85	2,014.98	656.94	10.00	10.00	0.00
7,000.00	84.46	0.79	6,314.22	-1,397.32	344.03	2,016.34	753.28	10.00	10.00	0.00
BPI: 600ft FSL & 985ft FEL of Sec 11 - NIOBRARA C LP										
7,055.45	90.00	0.79	6,316.90	-1,400.00	399.38	2,017.10	807.59	10.00	10.00	0.00
7,100.00	90.00	0.79	6,316.90	-1,400.00	443.93	2,017.72	851.31	0.00	0.00	0.00
7,200.00	90.00	0.79	6,316.90	-1,400.00	543.92	2,019.09	949.43	0.00	0.00	0.00
7,300.00	90.00	0.79	6,316.90	-1,400.00	643.91	2,020.47	1,047.54	0.00	0.00	0.00
7,400.00	90.00	0.79	6,316.90	-1,400.00	743.90	2,021.85	1,145.66	0.00	0.00	0.00
7,500.00	90.00	0.79	6,316.90	-1,400.00	843.90	2,023.23	1,243.78	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WAVES 7-60 11-2-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Site:	SE SW SEC. 11 T7N R60W 6th P.M.	North Reference:	True
Well:	WAVES 7-60 11-2-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,600.00	90.00	0.79	6,316.90	-1,400.00	943.89	2,024.61	1,341.89	0.00	0.00	0.00
7,700.00	90.00	0.79	6,316.90	-1,400.00	1,043.88	2,025.99	1,440.01	0.00	0.00	0.00
7,800.00	90.00	0.79	6,316.90	-1,400.00	1,143.87	2,027.37	1,538.13	0.00	0.00	0.00
7,900.00	90.00	0.79	6,316.90	-1,400.00	1,243.86	2,028.75	1,636.25	0.00	0.00	0.00
8,000.00	90.00	0.79	6,316.90	-1,400.00	1,343.85	2,030.12	1,734.36	0.00	0.00	0.00
8,100.00	90.00	0.79	6,316.90	-1,400.00	1,443.84	2,031.50	1,832.48	0.00	0.00	0.00
8,200.00	90.00	0.79	6,316.90	-1,400.00	1,543.83	2,032.88	1,930.60	0.00	0.00	0.00
8,300.00	90.00	0.79	6,316.90	-1,400.00	1,643.82	2,034.26	2,028.71	0.00	0.00	0.00
8,400.00	90.00	0.79	6,316.90	-1,400.00	1,743.81	2,035.64	2,126.83	0.00	0.00	0.00
8,500.00	90.00	0.79	6,316.90	-1,400.00	1,843.80	2,037.01	2,224.95	0.00	0.00	0.00
8,600.00	90.00	0.79	6,316.90	-1,400.00	1,943.79	2,038.39	2,323.07	0.00	0.00	0.00
8,700.00	90.00	0.79	6,316.90	-1,400.00	2,043.78	2,039.77	2,421.18	0.00	0.00	0.00
8,800.00	90.00	0.79	6,316.90	-1,400.00	2,143.77	2,041.15	2,519.30	0.00	0.00	0.00
8,900.00	90.00	0.79	6,316.90	-1,400.00	2,243.76	2,042.53	2,617.42	0.00	0.00	0.00
9,000.00	90.00	0.79	6,316.90	-1,400.00	2,343.75	2,043.90	2,715.53	0.00	0.00	0.00
9,100.00	90.00	0.79	6,316.90	-1,400.00	2,443.74	2,045.28	2,813.65	0.00	0.00	0.00
9,200.00	90.00	0.79	6,316.90	-1,400.00	2,543.73	2,046.66	2,911.77	0.00	0.00	0.00
9,300.00	90.00	0.79	6,316.90	-1,400.00	2,643.72	2,048.04	3,009.88	0.00	0.00	0.00
9,400.00	90.00	0.79	6,316.90	-1,400.00	2,743.71	2,049.42	3,108.00	0.00	0.00	0.00
9,500.00	90.00	0.79	6,316.90	-1,400.00	2,843.71	2,050.79	3,206.12	0.00	0.00	0.00
9,600.00	90.00	0.79	6,316.90	-1,400.00	2,943.70	2,052.17	3,304.23	0.00	0.00	0.00
9,700.00	90.00	0.79	6,316.90	-1,400.00	3,043.69	2,053.55	3,402.35	0.00	0.00	0.00
9,800.00	90.00	0.79	6,316.90	-1,400.00	3,143.68	2,054.92	3,500.47	0.00	0.00	0.00
9,900.00	90.00	0.79	6,316.90	-1,400.00	3,243.67	2,056.30	3,598.59	0.00	0.00	0.00
10,000.00	90.00	0.79	6,316.90	-1,400.00	3,343.66	2,057.68	3,696.70	0.00	0.00	0.00
10,100.00	90.00	0.79	6,316.90	-1,400.00	3,443.65	2,059.06	3,794.82	0.00	0.00	0.00
10,200.00	90.00	0.79	6,316.90	-1,400.00	3,543.64	2,060.43	3,892.94	0.00	0.00	0.00
10,300.00	90.00	0.79	6,316.90	-1,400.00	3,643.63	2,061.81	3,991.05	0.00	0.00	0.00
10,400.00	90.00	0.79	6,316.90	-1,400.00	3,743.62	2,063.19	4,089.17	0.00	0.00	0.00
10,500.00	90.00	0.79	6,316.90	-1,400.00	3,843.61	2,064.56	4,187.29	0.00	0.00	0.00
10,600.00	90.00	0.79	6,316.90	-1,400.00	3,943.60	2,065.94	4,285.40	0.00	0.00	0.00
10,700.00	90.00	0.79	6,316.90	-1,400.00	4,043.59	2,067.32	4,383.52	0.00	0.00	0.00
10,800.00	90.00	0.79	6,316.90	-1,400.00	4,143.58	2,068.69	4,481.64	0.00	0.00	0.00
10,900.00	90.00	0.79	6,316.90	-1,400.00	4,243.57	2,070.07	4,579.75	0.00	0.00	0.00
11,000.00	90.00	0.79	6,316.90	-1,400.00	4,343.56	2,071.45	4,677.87	0.00	0.00	0.00
11,100.00	90.00	0.79	6,316.90	-1,400.00	4,443.55	2,072.82	4,775.99	0.00	0.00	0.00
11,200.00	90.00	0.79	6,316.90	-1,400.00	4,543.54	2,074.20	4,874.10	0.00	0.00	0.00
11,300.00	90.00	0.79	6,316.90	-1,400.00	4,643.53	2,075.58	4,972.22	0.00	0.00	0.00
11,400.00	90.00	0.79	6,316.90	-1,400.00	4,743.53	2,076.95	5,070.34	0.00	0.00	0.00
11,500.00	90.00	0.79	6,316.90	-1,400.00	4,843.52	2,078.33	5,168.45	0.00	0.00	0.00
11,600.00	90.00	0.79	6,316.90	-1,400.00	4,943.51	2,079.70	5,266.57	0.00	0.00	0.00
11,700.00	90.00	0.79	6,316.90	-1,400.00	5,043.50	2,081.08	5,364.69	0.00	0.00	0.00
11,800.00	90.00	0.79	6,316.90	-1,400.00	5,143.49	2,082.46	5,462.80	0.00	0.00	0.00
11,900.00	90.00	0.79	6,316.90	-1,400.00	5,243.48	2,083.83	5,560.92	0.00	0.00	0.00
12,000.00	90.00	0.79	6,316.90	-1,400.00	5,343.47	2,085.21	5,659.04	0.00	0.00	0.00
12,100.00	90.00	0.79	6,316.90	-1,400.00	5,443.46	2,086.58	5,757.15	0.00	0.00	0.00
12,200.00	90.00	0.79	6,316.90	-1,400.00	5,543.45	2,087.96	5,855.27	0.00	0.00	0.00
12,300.00	90.00	0.79	6,316.90	-1,400.00	5,643.44	2,089.33	5,953.39	0.00	0.00	0.00
12,400.00	90.00	0.79	6,316.90	-1,400.00	5,743.43	2,090.71	6,051.50	0.00	0.00	0.00
12,500.00	90.00	0.79	6,316.90	-1,400.00	5,843.42	2,092.09	6,149.62	0.00	0.00	0.00
12,600.00	90.00	0.79	6,316.90	-1,400.00	5,943.41	2,093.46	6,247.74	0.00	0.00	0.00
12,700.00	90.00	0.79	6,316.90	-1,400.00	6,043.40	2,094.84	6,345.85	0.00	0.00	0.00
12,800.00	90.00	0.79	6,316.90	-1,400.00	6,143.39	2,096.21	6,443.97	0.00	0.00	0.00
12,900.00	90.00	0.79	6,316.90	-1,400.00	6,243.38	2,097.59	6,542.08	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WAVES 7-60 11-2-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Site:	SE SW SEC. 11 T7N R60W 6th P.M.	North Reference:	True
Well:	WAVES 7-60 11-2-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,000.00	90.00	0.79	6,316.90	-1,400.00	6,343.37	2,098.96	6,640.20	0.00	0.00	0.00
13,100.00	90.00	0.79	6,316.90	-1,400.00	6,443.36	2,100.34	6,738.32	0.00	0.00	0.00
13,200.00	90.00	0.79	6,316.90	-1,400.00	6,543.35	2,101.71	6,836.43	0.00	0.00	0.00
13,300.00	90.00	0.79	6,316.90	-1,400.00	6,643.35	2,103.09	6,934.55	0.00	0.00	0.00
13,400.00	90.00	0.79	6,316.90	-1,400.00	6,743.34	2,104.46	7,032.67	0.00	0.00	0.00
13,500.00	90.00	0.79	6,316.90	-1,400.00	6,843.33	2,105.84	7,130.78	0.00	0.00	0.00
13,600.00	90.00	0.79	6,316.90	-1,400.00	6,943.32	2,107.21	7,228.90	0.00	0.00	0.00
13,700.00	90.00	0.79	6,316.90	-1,400.00	7,043.31	2,108.59	7,327.02	0.00	0.00	0.00
13,800.00	90.00	0.79	6,316.90	-1,400.00	7,143.30	2,109.96	7,425.13	0.00	0.00	0.00
13,900.00	90.00	0.79	6,316.90	-1,400.00	7,243.29	2,111.34	7,523.25	0.00	0.00	0.00
14,000.00	90.00	0.79	6,316.90	-1,400.00	7,343.28	2,112.71	7,621.36	0.00	0.00	0.00
14,100.00	90.00	0.79	6,316.90	-1,400.00	7,443.27	2,114.08	7,719.48	0.00	0.00	0.00
14,200.00	90.00	0.79	6,316.90	-1,400.00	7,543.26	2,115.46	7,817.60	0.00	0.00	0.00
14,300.00	90.00	0.79	6,316.90	-1,400.00	7,643.25	2,116.83	7,915.71	0.00	0.00	0.00
14,400.00	90.00	0.79	6,316.90	-1,400.00	7,743.24	2,118.21	8,013.83	0.00	0.00	0.00
14,500.00	90.00	0.79	6,316.90	-1,400.00	7,843.23	2,119.58	8,111.95	0.00	0.00	0.00
14,600.00	90.00	0.79	6,316.90	-1,400.00	7,943.22	2,120.96	8,210.06	0.00	0.00	0.00
14,700.00	90.00	0.79	6,316.90	-1,400.00	8,043.21	2,122.33	8,308.18	0.00	0.00	0.00
14,800.00	90.00	0.79	6,316.90	-1,400.00	8,143.20	2,123.70	8,406.29	0.00	0.00	0.00
14,900.00	90.00	0.79	6,316.90	-1,400.00	8,243.19	2,125.08	8,504.41	0.00	0.00	0.00
15,000.00	90.00	0.79	6,316.90	-1,400.00	8,343.18	2,126.45	8,602.53	0.00	0.00	0.00
15,100.00	90.00	0.79	6,316.90	-1,400.00	8,443.18	2,127.83	8,700.64	0.00	0.00	0.00
15,200.00	90.00	0.79	6,316.90	-1,400.00	8,543.17	2,129.20	8,798.76	0.00	0.00	0.00
15,300.00	90.00	0.79	6,316.90	-1,400.00	8,643.16	2,130.57	8,896.88	0.00	0.00	0.00
15,400.00	90.00	0.79	6,316.90	-1,400.00	8,743.15	2,131.95	8,994.99	0.00	0.00	0.00
15,500.00	90.00	0.79	6,316.90	-1,400.00	8,843.14	2,133.32	9,093.11	0.00	0.00	0.00
15,600.00	90.00	0.79	6,316.90	-1,400.00	8,943.13	2,134.69	9,191.22	0.00	0.00	0.00
15,700.00	90.00	0.79	6,316.90	-1,400.00	9,043.12	2,136.07	9,289.34	0.00	0.00	0.00
15,800.00	90.00	0.79	6,316.90	-1,400.00	9,143.11	2,137.44	9,387.46	0.00	0.00	0.00
15,900.00	90.00	0.79	6,316.90	-1,400.00	9,243.10	2,138.81	9,485.57	0.00	0.00	0.00
16,000.00	90.00	0.79	6,316.90	-1,400.00	9,343.09	2,140.19	9,583.69	0.00	0.00	0.00
16,100.00	90.00	0.79	6,316.90	-1,400.00	9,443.08	2,141.56	9,681.80	0.00	0.00	0.00
16,200.00	90.00	0.79	6,316.90	-1,400.00	9,543.07	2,142.93	9,779.92	0.00	0.00	0.00
16,300.00	90.00	0.79	6,316.90	-1,400.00	9,643.06	2,144.31	9,878.04	0.00	0.00	0.00
16,400.00	90.00	0.79	6,316.90	-1,400.00	9,743.05	2,145.68	9,976.15	0.00	0.00	0.00
16,500.00	90.00	0.79	6,316.90	-1,400.00	9,843.04	2,147.05	10,074.27	0.00	0.00	0.00
16,600.00	90.00	0.79	6,316.90	-1,400.00	9,943.03	2,148.43	10,172.38	0.00	0.00	0.00
16,700.00	90.00	0.79	6,316.90	-1,400.00	10,043.02	2,149.80	10,270.50	0.00	0.00	0.00
EPI: 300ft FNL & 980ft FEL of Sec 2										
16,744.85	90.00	0.79	6,316.90	-1,400.00	10,087.87	2,150.41	10,314.51	0.00	0.00	0.00
16,800.00	90.00	0.79	6,316.90	-1,400.00	10,143.02	2,151.17	10,368.62	0.00	0.00	0.00
BHL: 200ft FNL & 979ft FEL of Sec 2										
16,845.05	90.00	0.79	6,316.90	-1,400.00	10,188.06	2,151.79	10,412.82	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well WAVES 7-60 11-2-9
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4916.90usft (Original Well Elev)
Site:	SE SW SEC. 11 T7N R60W 6th P.M.	North Reference:	True
Well:	WAVES 7-60 11-2-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
587.25	584.90	PIERRE SHALE (BASE OF FOX HI			
3,628.75	3,369.90	PARKMAN			
4,209.74	3,894.90	SUSSEX			
5,398.67	4,992.90	SHANNON			
6,445.66	6,021.90	SHARON SPRINGS SHALE			
6,529.39	6,091.90	NIOBRARA FORMATION			
6,542.09	6,101.90	NIOBRARA A CHALK			
6,703.05	6,211.90	NIOBRARA B CHALK			
6,854.15	6,281.90	NIOBRARA C CHALK			
7,055.45	6,316.90	NIOBRARA C LP			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 210ft FSL & 2285ft FWL of Sec 11
100.00	100.00	0.00	0.00	START NUDGE (2°/100ft BUR)
1,367.98	1,326.99	-23.75	275.04	EOB TO 25.36° INC
4,787.46	4,416.95	-149.77	1,734.16	END OF TANGENT
6,055.44	5,643.94	-173.52	2,009.20	EOD TO VERTICAL
6,155.44	5,743.94	-173.52	2,009.20	KOP (10°/100ft BUR)
7,055.45	6,316.90	399.38	2,017.10	BPI: 600ft FSL & 985ft FEL of Sec 11
16,744.85	6,316.90	10,087.87	2,150.41	EPI: 300ft FNL & 980ft FEL of Sec 2
16,845.05	6,316.90	10,188.06	2,151.79	BHL: 200ft FNL & 979ft FEL of Sec 2